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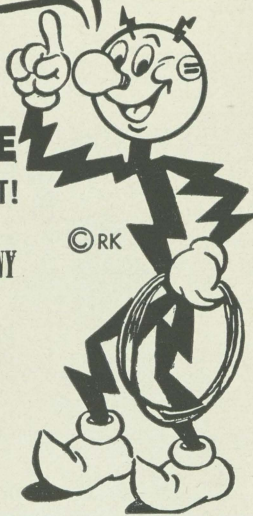
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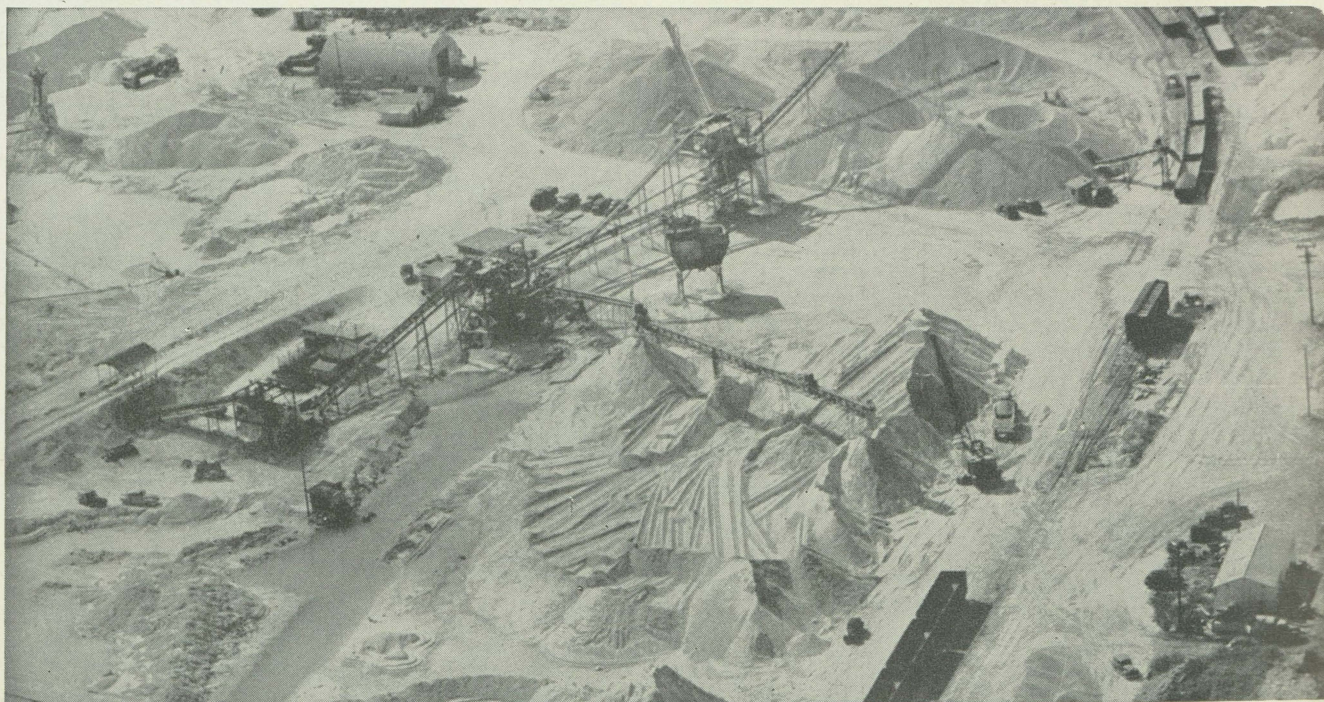
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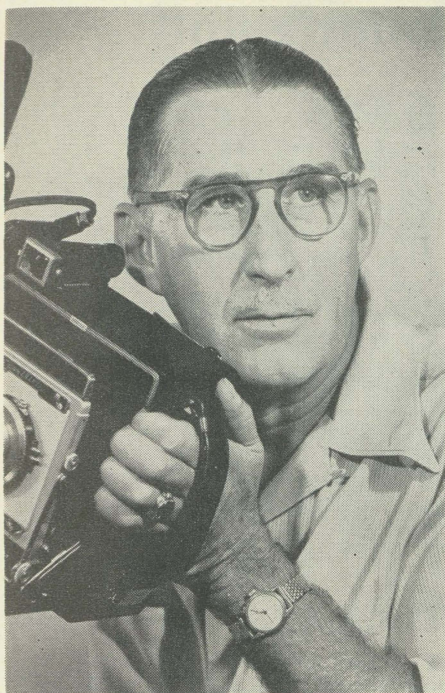
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At the annual convention of the Florida Photographer's Association, held recently at Daytona Beach, A. Wade Blake, Photographic Engineer for the State Road Department, was elected president for the ensuing year. He has been associated with this organization for several years, serving as a director for three years and vice president for the past year. He is also a member of the Photographer's Association of America and served in the capacity of Council Member for the State of Florida in the commercial field.

Wade, who was officially dubbed "snapshot" by Chairman McKethan—and the name is apparently going to stick—has been with the Road Department for 16 years. Starting in as an inspector, he has served in the various positions of instrumentman, draftsman, designer and chief draftsman. The latter position he held for ten years in the First Division.

The word "engineer" in his present title is honestly earned as he successfully passed the examination for registered engineers as prescribed by the Florida State Board of Engineer Examiners.

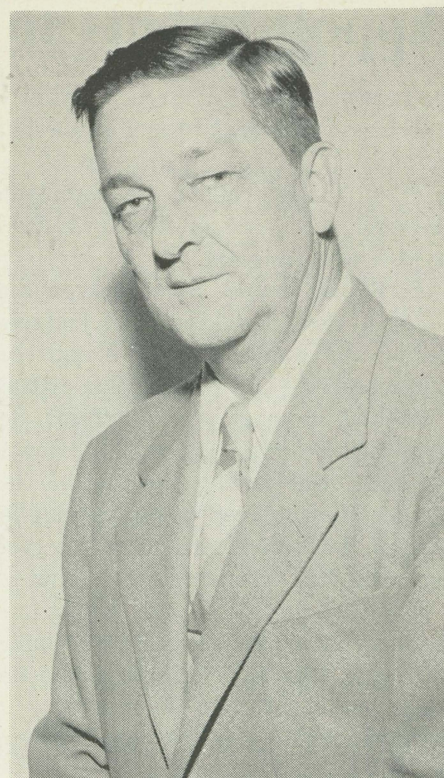
He was born in Concord, New Hampshire October 1, 1900, and attended the public schools of that city, graduating from Concord High School and the Morrill School of Mechanical Arts in 1917. He served in the U. S.

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Navy during World War I with a rank so low that he won't even mention it.

In 1925 he married Grace Magill of LaBelle, Florida, and they have two children, Patricia Anne and Shirley Lynne.



Fleming A. Seay, Assistant Division Engineer in charge of construction in the Fifth Division since 1946, assumed the duties of Right of Way Division Engineer at Tallahassee in March.

Seay is a veteran engineer counting sixteen years service with the Florida Road Department, besides two years with the Road Department of Georgia and two years with Duval Engineering and Construction Company. Since beginning work with the Department in 1925 he has served as Draftsman (1925-27), Chief Draftsman (1927-29), Federal Aid Engineer (1929-34) and Location Engineer (1934-38), besides his recent service as Assistant Division Engineer.

In the First World War Seay served in the Marine Corps as a private first class. In the Second he was four years in the Civil Engineer Corps (L C D R) of the U. S. Navy, and his tour of duty overseas took him to Algeria, Tunisia, Sicily and Italy in the European theater and to the Marshall and Philippine Islands in the Pacific.

Fleming was born February 9, 1899, at Ramona, Indiana. He attended the public schools at Macon, Georgia, and Knoxville, Tennessee, and obtained his higher education at the U. S. Marine Corps Institute and the University of Tennessee.



# Appointments to Barbers Sanitary Commission

Governor Fuller Warren early in February appointed two new members to the Florida Board of Sanitary Examiners.

Pryor Young, Tallahassee journeyman barber, is filling the unexpired term of Homer A. Brinkley, also of Tallahassee, who resigned.

B. Raines, owner of a Jacksonville barber shop, succeeds J. Fred Arnold, also of Jacksonville, who resigned. Young and Raines will serve until June 23, 1951. They will receive \$175 a month, plus expenses.

A third member is V. P. (Runt) Selph of Lakeland, a long time Floridan, and widely known singer.

Young, who is 47 years old, has been a barber for 27 years. He has lived in Tallahassee for 23 years. Raines' shop in Jacksonville frequently served Governor Warren when he was practicing law in that city.

In connection with the appointments to the barbers sanitary commission it will be of interest to many to read Governor Warren's "Tribute to the Barbershop" which he wrote and caused to be distributed among barbershops throughout the state during his campaign for governor, as follows:

"Let's give a salute to that great citadel of Democracy and of friendship among all Americans—the BARBER SHOP. Be it a one-chair shop or a chromium emporium, here is the one place a citizen always gets a friendly welcome and courteous service. Not the least of its attractions—even for men who shave themselves and miss the relaxation of a hot towel—is the enlightening and inspiring conversation of barbershop society.

"Indeed, the barbershop is a tonsorial 'town hall,' where genial men like to loaf and listen. Ideas generated there often are as stimulating as a dash of bay rum.

"Presiding over the flow of wit and wisdom is the barber, himself. There, speaking occupationally, is an artist—a Rembrandt of the razor. You go in with scraggy hair and a day's old beard, and he turns you out of the chair looking like a man with a future. If you're getting a little bald on top, your favorite barber will work for hours to coax the fuzz and stave off the threat of a toupee.

"The barber who has been practicing his profession for any length of time is a wise man. For he swaps opinions on various subjects with dozens of people every day, and gradually he comes to know a little bit about everything under the sun. He gives a sympathetic ear to the troubles of the world and dispenses the right words of consolation. He's a good-natured fellow with a razor-sharp sense of humor.

"The barber appreciates your tip, but he doesn't alter his efforts for you because of it. The poor man who can't tip anything will get the barber's full attention, just the same as a millionaire who always lays down a dollar. And the millionaire must wait the call of 'Next,' the same as you or I.

"My hat is off to the barber—a moulder of public opinion, a painstaking craftsman of his trade and a good American!"



State Barber Board—Left to right standing; Pryor Young, Tallahassee; V. P. (Runt) Selph, Lakeland, and B. Raines, Chairman, Jacksonville. Seated: L. H. Donn, Graduate Student of Florida Barber College.

## TRAFFIC SIGNS ARE OLD STORY

A pile of stones by the side of the trail, a rough arrow scratched in the earth, or a slash in the side of a tree were primitive man's traffic signs—in use before he even had a language.

According to the National Safety Council, the use of traffic signs is as old as history itself. Although the first signs in use were mainly directional markers, wider applications of them spread quickly. Caesar is known to have established one-way streets, "no-parking" signs, and the policy of banning downtown traffic during festival days as early as 50 B. C.

The first American attempt to regulate speed goes back to 1678 when Newport, R. I., inflamed by the death of a child under a horse's hoofs, posted the first "No Speeding" signs.

Our present "No Parking" signs are the out-growth of the early American "No Hitching" signs, and America's first one-way streets were established in New York City in 1760 in the neighborhood of the John Street Theater.

Trains were hardly out of the novelty stage before citizens began trying to beat them to crossings. Shortly after the Civil War, road gates at railroad crossings began to appear in an attempt to cut down the fatalities resulting from this sport.

With the appearance of the automobile and the wanderlust that accompanied it, highway signs and markers became more and more numerous, and in Cleveland the first traffic signal light was installed in 1914. Such a rapid growth of the use of highway signs naturally resulted in a severe case of too many cooks spoiling the broth, and roads and highways became a hodge-podge of signs of every conceivable shape and size. This situation was eased, however by the adoption of a standardization known as the "Manual on Uniform Traffic Control Devices," compiled by a group of traffic experts in the 1930's.



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Association of County Commissioners

Authorized medium of Motor Vehicle Division and other State departments.

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RALPH M. HARTSFIELD, Tallahassee.....*Editor*

LOYAL COMPTON, Tallahassee.....*Associate Editor*

J. E. ROBINSON, 2808 North Orange Avenue, Orlando.....*Publisher*

ROBINSONS 6 ORLANDO

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# Adequacy of Highway Transportation

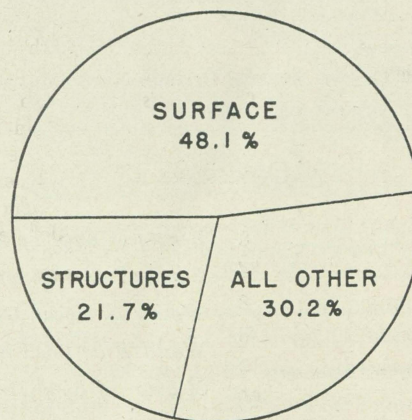
By J. S. BRIGHT  
Deputy Commissioner  
Public Roads Administration  
Washington, D. C.

Presented at the American Road  
Builders' Association Meeting at  
Savannah, Georgia, May 13, 1949

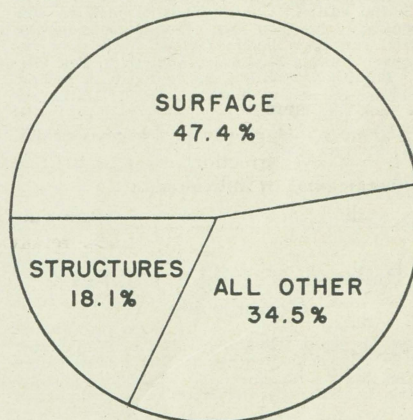
CHART I

## HIGHWAY NEEDS

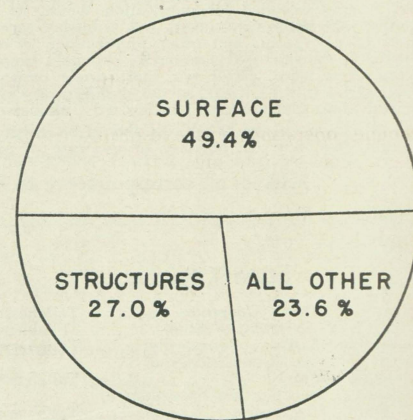
### STATE, COUNTY & LOCAL



### STATE



### COUNTY & LOCAL



HIGHWAY TRANSPORTATION is a cooperative enterprise in which the people, through government, furnish the roadbed, and private individuals furnish the rolling stock. Private enterprise has invested untold additional millions in facilities for distributing, replacing and servicing the rolling stock. This transportation team serves as a link between our isolated resources of mining, petroleum, forestry, agriculture, industry, the centers of commerce, our national defense system and in the development of our cultural, educational and spiritual life. A glance at the map indicates how highways meet these problems and strikingly suggests the void that would be created if present systems of roadways were suddenly removed.

It is the purpose here to appraise the adequacy of the rate of highway production to meet the rolling stock needs. There are two aspects to the subject: Are we producing highways fast enough to sustain a transportation system to efficiently serve and promote the economy and welfare of the Nation; and are we producing highways fast enough for timely completion of current authorized programs?

(1) THE ADEQUACY OF THE RATE OF CONSTRUCTION TO SUSTAIN AN EFFICIENT HIGHWAY TRANSPORTATION SYSTEM.

### History of Accumulating Highway Deficiencies

It is evident to any motorist that many of our highways are now old, inadequate or worn out. Highways wear out just like a suit of clothes. There is continuous deterioration due to wear and tear of traffic and action of the elements. This deterioration is most noticeable in the road surfaces, but it is also taking place in the subgrade and structures.

Highways also become outgrown, just as clothes do when the wearer happens to be a growing boy. In a period when motor-vehicle traffic has been developing as rapidly as in the last 30 years, obsolescence becomes a greater factor on some roads than deterioration. Narrow pavements and hazardous shoulders are an outstanding example. Unfortunately, highway facilities cannot be junked or traded in on later

| Classes of Roads | Surface Percent | Structures Percent | All Others Percent | Total Percent |
|------------------|-----------------|--------------------|--------------------|---------------|
| State highways   | 47.4            | 18.1               | 34.5               | 100           |
| County and local | 49.4            | 27.0               | 23.6               | 100           |

models every few years as is done with motor vehicles.

Few people in the early 20's could foresee the rapid growth in traffic volume, the higher average speeds and the greater average weights which have developed since that time. Neither could they foresee the changing of the motorist's sight distance as car designs and car seats moved closer to the pavement and lowered the driver's height of eye. Even if these changes could have been foreseen, it would not have been expedient to make improvements too far in advance of the needs then existing, nor

would it have been wise to concentrate too much of the available funds on a small mileage of highways.

It might be further noted that improvements made a quarter of a century ago, and now obsolete because of traffic growth, have long since paid for themselves.

Deficiencies have been accumulating on our highways and streets since the depression when State and local expenditures for highway reconstruction and expansion were slashed to the bone. During that period, it was not possible to keep pace with deterioration. Expansion of highway capaci-



ties, in order to meet the ever-increasing demand placed upon them by the motor vehicle (improvements of such vehicles being actually stimulated by the depression) was out of the question. During the war, that situation could not be physically corrected because of scarcities of manpower and materials. It was, in fact, aggravated by the increase in axle loadings permitted to meet the war emergency, and by the less than normal highway maintenance program that was possible under the Nation's wide shortage of manpower, materials and equipment.

Obstacles in the way of rapid correction of highway deficiencies after "V-J Day" were reared by factors emerging from a Nation converting from a wartime to a peacetime economy. Programs had to be altered to meet the everchanging condition of the construction market. Steel structures had to be partially deferred. Only the simplest type of highway work could be advanced.

#### Losses Resulting From Highway Deficiencies

A recent estimate published by the Brookings Institute indicates that the 1948 highway transportation bill was 30 billion dollars. About one-tenth or three billion went for highways. The other nine-tenths of the total went for automobiles, insurance premiums, gasoline, parking, lubrication, tires and all the other products provided by private industry. A better public understanding of the ratio between the cost of highways and the cost of highway transportation would perhaps disclose that what appears to be a saving by restricting highway expenditures is being lost through excessive vehicle operating costs resulting from an overly conservative highway program.

It should be remembered that current physical deficiencies are merely the visible symbols of continuous economic loss. The loss itself, compounded as deficiencies increase, is in terms of accidents, time delays, parking problems, wear and tear on motor vehicles and all the attendant burdens placed upon the general economy. The most common visible evidence of deficiencies is the congestion through which almost every motorist struggles during peak traffic hours or peak days. The average speed in downtown business districts often drops lower than 10 miles per hour. Maintenance expenditures alone on State, county and municipal highways rose from 393 million dollars in 1921 to 1,132 million in 1948. We pay for our highways whether we have them or not.

#### Estimates of Highway Deficiencies and Program Needs

The Economic Report of the President, transmitted to the Congress in January 1949, recognized current highway problems in the following words:

"Highway traffic has increased faster than total production, population growth, or highway capacity. An annual 3 percent increase in output and

transportation would require an annual expenditure of at least 4 billion dollars for maintenance, repair, and new construction of our road system. About one-third of this should be assigned to city streets and expressways, one-third to primary rural roads, and one-third to secondary and local roads. Expenditures in 1949, including maintenance and repair, are not expected to equal even half our annual long-run needs."

Deducting the current annual maintenance expenditure from the 4 billion dollars would mean an annual construction program of 2.9 billion dollars. It is double the \$1,569,000,000 of all State, county, city and local highway construction work performed in 1948.

Accumulated highway deficiencies by far exceed either of the above amounts. This fact is disclosed by the State-wide highway needs surveys made at the request of State Legislatures or the Executive Departments of State Governments. The surveys were made by experienced engineers who determined the deficiencies by a mile-by-mile appraisal of each road and street, using standards or yardsticks of measurement approved by State, county and city engineering committees. This inventory of deficiencies represents the very core of highway problems. It presents, categorically, the accumulated backlog of new construction, resurfacing and widening, weak or narrow structures, realignment and other major improvements necessary to render adequate service to highway traffic. Surveys in the eight States of California, Illinois, Kansas, Michigan, New Hampshire, Oregon, Vermont and Washington disclosed that this group alone had highway deficiencies which need immediate correction in the amount of \$6,627,000,000. California called these "critical deficiencies;" Oregon, "immediate construction needs;" and the Illinois report had this to say:

"By far the most serious aspect of the present highway problem is this accumulated deficiency in all systems. The fact that about \$2,518,916,800 is needed right now to correct existing highway deficiencies is alarming."

An even more specific example of highway problems is furnished by Arkansas, one of the group of southeastern States. The Eighteenth Biennial Report of the State Highway Commission has this to say:

"Arkansas has not had a road life study program in the past and does not know at what rates the roads are wearing out or need replacement due to obsolescence. However, based on national averages, it can reasonably be expected to lose within the next ten years thirty-seven percent of the high type pavements, sixty-one percent of the blacktop roads and eighty-nine percent of the gravel and crushed stone surfacing. To replace these losses, under current standards and at present prices, would require \$15,000,000 an-

nually. Against this need, the financing during the biennium, including Federal aid, has provided an \$8,000,000 to \$10,000,000 annual program."

The Commissioner of Public Roads in testimony before Congress on the 1948 Highway Act indicated that based on road life study charts the annual surface replacement needs on the 611,226 miles of Federal-aid primary and secondary systems would probably be 40,000 miles per year. It was comprised of about 13,100 miles on the primary system and the remainder on the secondary system. In 1948 20,510 miles of Federal-aid primary and secondary highways were actually constructed under authorized programs. The Commissioner's reference was made to annual surface replacement needs. The accumulated deficiencies both on and outside the surface are even greater.

Surveys of State, county and city highway systems in 17 States (including the above-listed 8 States) disclose that 579,010 miles, or 49 percent of the 1,172,785 miles of highways appraised, are deficient. The estimated cost of correcting these deficiencies over a 10-year period is \$16,600,573,353. Within these amounts, 102,471 or 55 percent of the State highway mileage was deficient and would cost 10.4 billion dollars to correct; 447,359 miles or 49 percent of the county and local mileage would need correction at an estimated cost of 3.2 billion; and 29,180 miles or 41 percent of the city streets would need correction at an estimated cost of 3 billion dollars.

The percent of accumulated State highway deficiencies checks with the findings made on the primary Federal-aid system in ten States principally located in the west. The Public Roads Administration in 1948 under a newly developed maintenance inspection technique rated on the basis of a 100 par the "condition," "safety," and "service" characteristics of 36,279 miles of Federal-aid primary highways:

**Condition** was evaluated from the standpoint of **anticipated life, maintenance economy and structural adequacy.**

**Safety** was measured in **widths of elements, sight distances and consistency of alignment.**

**Service** was rated on **dispatch, ease, economy and direction.**

18,709 miles were below the tolerable rating of 70 on either one of the elements of condition, safety or service or on a combination of these elements. This is a 52 percent accumulated deficiency in some phase of the mileage.

State surveys of highways deficient on part of the remaining 2,081,215 miles of highways and streets in the country are being made in some of the States. If the pattern of highway deficiencies disclosed in the 17 States surveyed holds true in the remainder of the 48 States, the estimated cost of correcting all the highway deficiencies over a period of 10 years would be at least 47 billion dollars.

(Continued on Page 25)



# Federal Aid Systems In Florida . . .

*Early in his administration of the Road Department Chairman McKethan took action toward obtaining an expansion of the Federal Aid Systems in Florida. After preliminary discussions with Public Roads Administration officials formal requests covering specific roads were filed with the agency.*

Following request of the State Road Department the Public Roads Administration on May 20, 1949 approved revisions, extensions and additions to the Federal Aid Primary System totaling 373,27 miles. This brings the System to a new total of 3,293.59 miles exclusive of 2.77 miles within Federal Reservations, 266.22 miles on the Strategic Network, and 94.17 miles on the National System of Interstate Highways, according to the statistical records of the Public Roads Administration.

## Extensions and Revisions

**Federal Aid Route No. 22:** Original route between Indian River City and Orlando. Extended Westerly via Clermont to Brooksville and replacing former F. A. Route No. 25 from Brooksville to Weekiwachee Springs.—Net addition 61.862 miles.

**Federal Aid Route No. 25:** Original route from St. Petersburg Northerly via Clearwater, Tarpon Springs, New Port Richey and Weekiwachee Springs to Brooksville. Portion between Weekiwachee Springs and Brooksville transferred to F. A. Route No. 22, and F. A. Route No. 25 extended Northerly from Weekiwachee Springs via Crystal River to Lebanon Station.—Net addition 47.472 miles.

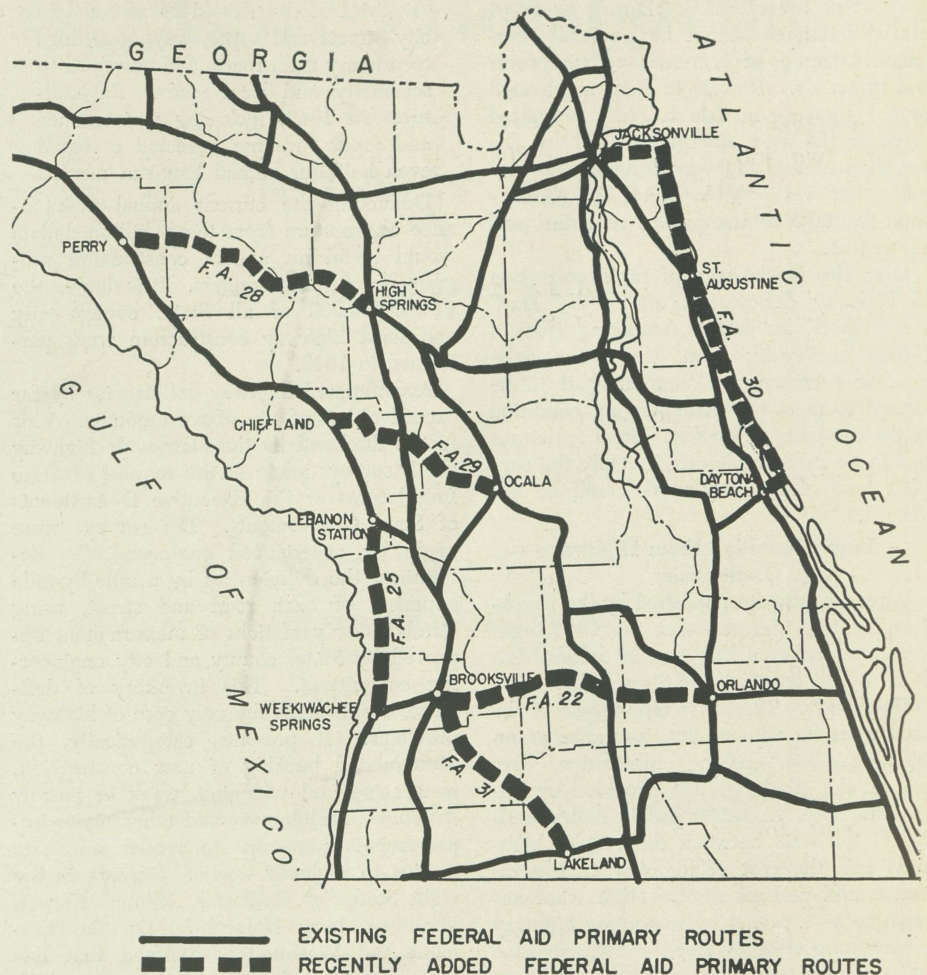
## Additions

**Federal Aid Route No. 28:** From Perry via Mayo and Branford to High Springs.—Net addition 69.346 miles.

**Federal Aid Route No. 29:** From Chiefland via Bronson and Williston to Ocala.—Net addition 51.124 miles.

**Federal Aid Route No. 30:** From Daytona Beach Northerly via Ormond, Flagler Beach, St. Augustine and Jacksonville Beach to Jacksonville.—Net addition 97.231 miles.

**Federal Aid Route No. 31:** From



Lakeland via Dade City to a point on F. A. Route No. 22 Southeast of Brooksville.—Net addition 46,231 miles.

The above route numbers should not be confused with U. S. Route numbers. The approval of Federal Aid routes by the Public Roads Administration places same in line for construction projects with participating Federal funds. The system of U. S. Route numbers, as approved by the American Association of State Highway Officials, are marked on the ground and on highway maps for the convenience of the traveling public.

## Federal Aid Secondary System

The first increment of the Federal Aid Secondary System was approved by the Public Roads Administration on March 28, 1946, for a total of 6,515 miles. By June 11, 1948 additional requests were made and approved bringing the total to 7,001 miles.

More recently the State Road Department has inaugurated a program of expanding this System to approximately 10,000 miles. This is being done on a county basis with county commissioners concurring. Thus far thirteen counties have been submitted and the presently approved Federal Aid Secondary System now totals 7,352 miles.

It is anticipated that all counties will have been submitted, and approved by the Public Roads Administration before the end of the year 1949.

Acceptance of a road in the Federal Aid System makes it eligible for improvement with participating federal funds. Federal participation generally amounts to 50% of the construction cost, but cannot be used for maintenance.



# Urban Interstate Link Completed ...

Ridgewood Avenue in Daytona Beach has been reconstructed from the South City Limits to Volusia Avenue and thence north to Bay Street.

The two jobs (7901-203 and -206) comprise 2.3 miles and cost approximately \$500,000 for construction.

Ridgewood Avenue is on U.S. Highway 1 (Fla. 5), a part of the Interstate System which embraces 1140 miles in the State.

The new street consists of two 32-foot lanes of asphaltic concrete surface separated by a 14-foot parkway and replaces the old 20-foot pavement of concrete or block.

The work was performed by the J. H. Craggs Construction Company and began in November, 1947.

The new street required a revision of the storm sewer and water distribution system on Ridgewood and adjacent streets which cost over \$200,000 to make.

Advance engineering and right-of-way costs for the Interstate route throughout this entire metropolitan area, which extends to route 60-A in Ormond, reached a total of \$1,195,000.

This project is a typical example of the tremendous costs involved in making urban highway improvements. The increase in costs over rural highway requirements attaches to all phases from the preliminary survey to the actual construction.

A major item of increased costs in urban highway improvement is for right of way. This generally exceeds and sometimes is double or triple the cost of the construction itself.

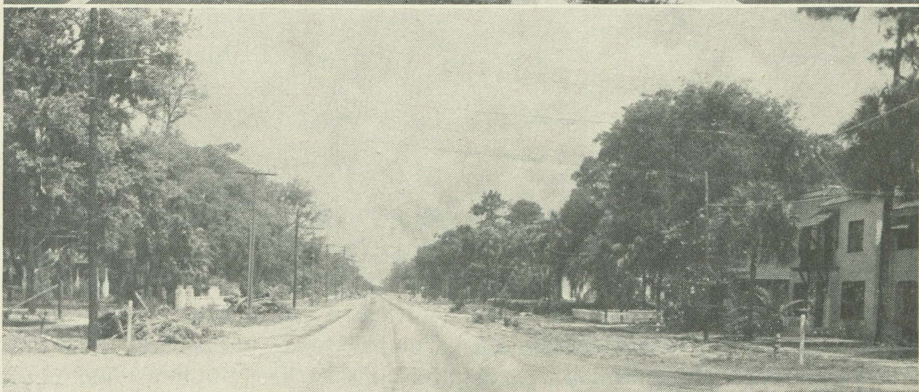
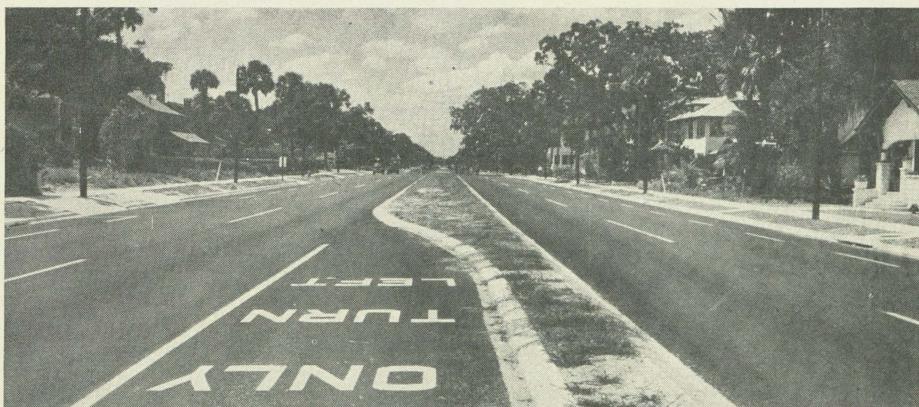
From the time the Road Department was created in 1915 until 1941 it was not legally responsible for the improvement and maintenance of highways located inside the corporate limits of municipalities. The Department did build some roads inside municipal limits because of financial inability of the town or city to furnish an adequate connection between rural sections, but this was an exception to the policy.

In 1941 the Department was made legally responsible for the construction, improvement and maintenance of all designated municipal connecting links to the State Maintained rural system. The Department is now responsible for over 1,000 miles of roads and streets inside municipal limits. While this is only 10% of all urban roads and streets in the state and only 11% of the State

(Continued on Page 17)



View looking north from Ridgewood Hotel. Top: Completed section as it appeared May 22, 1949. Bottom: Replaced facility as it appeared May 28, 1948.



Top: Looking north from South Street at the completed section showing turn-out lane for left turns. Bottom: Old facility from point 3 blocks south.



# Nature's Merry-Go-Round . . .

By CAROL H. BECK, B. S., M. S.,  
*Botanist, Florida State Parks*

"EVERY LIVING thing depends on every other living thing to live."

You can remember your high school biology teacher expounding this line of wisdom to your very bored ears. She probably went back to the Darwin-Huxley explanation of why the supply of clover hay depends on the number of old maids, reciting the classic:

*Old maids keep cats;  
Cats eat mice;  
Mice eat bumblebees;  
Bumblebees, and only bumblebees, pollinate clover.*

In 1945, a hurricane was scheduled to hit Tampa on June 21. Instead of hitting it with winds as anticipated, a cloud-burst flooded it with rain as unexpected.

At Hillsborough River State Park, about twenty miles north of Tampa, every little hole filled with water and then overflowed.

However, that was not enough rain, or so it seemed, because every day during the months of June and July brought more rain and the puddles and ponds became larger and larger, making wonderful hatcheries for mosquitoes and frogs.

Forsooth, that was not enough weather trouble!

On the twenty-first of July, a freak storm dumped five inches of rain into the Tampa-Hillsborough river area. And thereafter, rain continued almost continuously every day until the first week of October.

Two weeks after the wet deluge, an epidemic of mosquitoes struck—itchingly. Clouds of them followed any one and everybody when he or she or they stepped outdoors. We, who adventured forth, had to cut palmetto leaves and wave them back and forth in front and behind, as we waded and sloshed through the well-watered woodlands at Hillsborough River State Park.

After the coming of the mosquitoes,



*Colorful water plants, shy orchids and graceful palms dominate the tropical water course that lends its name to the Hillsborough River State Park, between Zephyrhills and Tampa. Its splendid picnicking and camping facilities are supplemented by absorbing nature trails, excellent swimming, boating and fishing.*

thousands of small tree toads put in their hopping and croaking appearance. A tree toad, mind you, is not big enough to scare you either in broad daylight or within the purple shadows of the gloaming. But they became so numerous since their usual death rate by starvation was prevented by the abundance of edible mosquitoes, a delicious morsel to a tree toad, that their approximate quarter-of-an-inch in size was forgot in comparison with their increasing numbers. One tiny tree toad at a time is nothing to get excited about, but—

Early in the morning, I counted fifteen of the little green tree toads on the lid of the garbage can. Each evening they climbed the mosquito netting over the beds in our tents where we could watch them eating the pesky mosquitoes—raw, with as much gourmandic satisfaction as a business man cutting up a T-bone steak—broiled. The tree toad's tongue was hitting the mosquito so fast the movement could not be seen, but the disappearance of the mosquito and the lump it made as

it went down the tree toad's throat could be easily observed. Soon there were almost no mosquitoes in our tents; and, outside in the park, the mosquitoes were being gobbled up. Thousands of little tree toads had dined sumptuously on many thousands of tiny mosquitoes.

But more ado about Nature's Merry-Go-Round!

One night I was lying on the bed in my tent, reading a book. I looked up and noticed there were a great many tree toads inside the tent. They were still having a wonderful time catching the few mosquitoes that had evaded the picnic table and eating tiny bugs that came to the light. I counted forty tree toads and gave up reading the book in order to watch them.

At this point, a student-naturalist who shared the tent with me, came in.

"Oh, goody, goody!" she exclaimed with great satisfaction, glancing at the tree toads. "Now," she continued, "my hungry water snakes can get fed." She started catching the tree





*Gold Head Branch State Park is located six miles northeast of Keystone Heights and 40 miles southwest of Jacksonville. There are facilities for swimming, fishing, boating, hiking, nature study, cabin camping, play fields and picnicking.*





*The word for Myakka River State Park near Sarasota is Serenity. It possesses all the prime requisites of a perfect vacation spot,—natural beauty on which to feast the eye; peace and quiet to soothe the nerves. Its great variety of plant and animal life gives it special interest for the botanist and the zoologist.*



*The historic old Gregory Mansion, 114 years old, in Torreya State Park, near Rock Bluff, was the scene of much social activity before the War Between the States.*

toads and putting them inside a small sack. "Gosh," she added, "and my pet water snakes haven't had a bite to eat all day."

"Stop that!" I protested righteously. "There were hundreds of mosquitoes buzzing around inside this tent, ready to make a meal out of my hide, until those tree toads came in and ate them up." I paused a moment, continued: "Gal, if you hurt those tree toads, you need never complain about the itch in a mosquito bite to me again."

She let the tree toads out of the sack. Her pet water snakes went hungry; but the wild snakes outside dined on many of the tree toads. And, of course, the birds in Hillsborough River State Park fared equally as well as the tree toads and snakes because birds relish both tree toads and snakes.

Day and night, Nature's-Merry-Go-Round at Hillsborough River State Park kept going the rounds.

Did you ever see an egret eating a live and wiggling water snake, that had been fattened on a plentiful diet of tree toads? If not, you have a great nature treat ahead of you. And then, at night, hawks and owls go in for a water snake meal, when available.

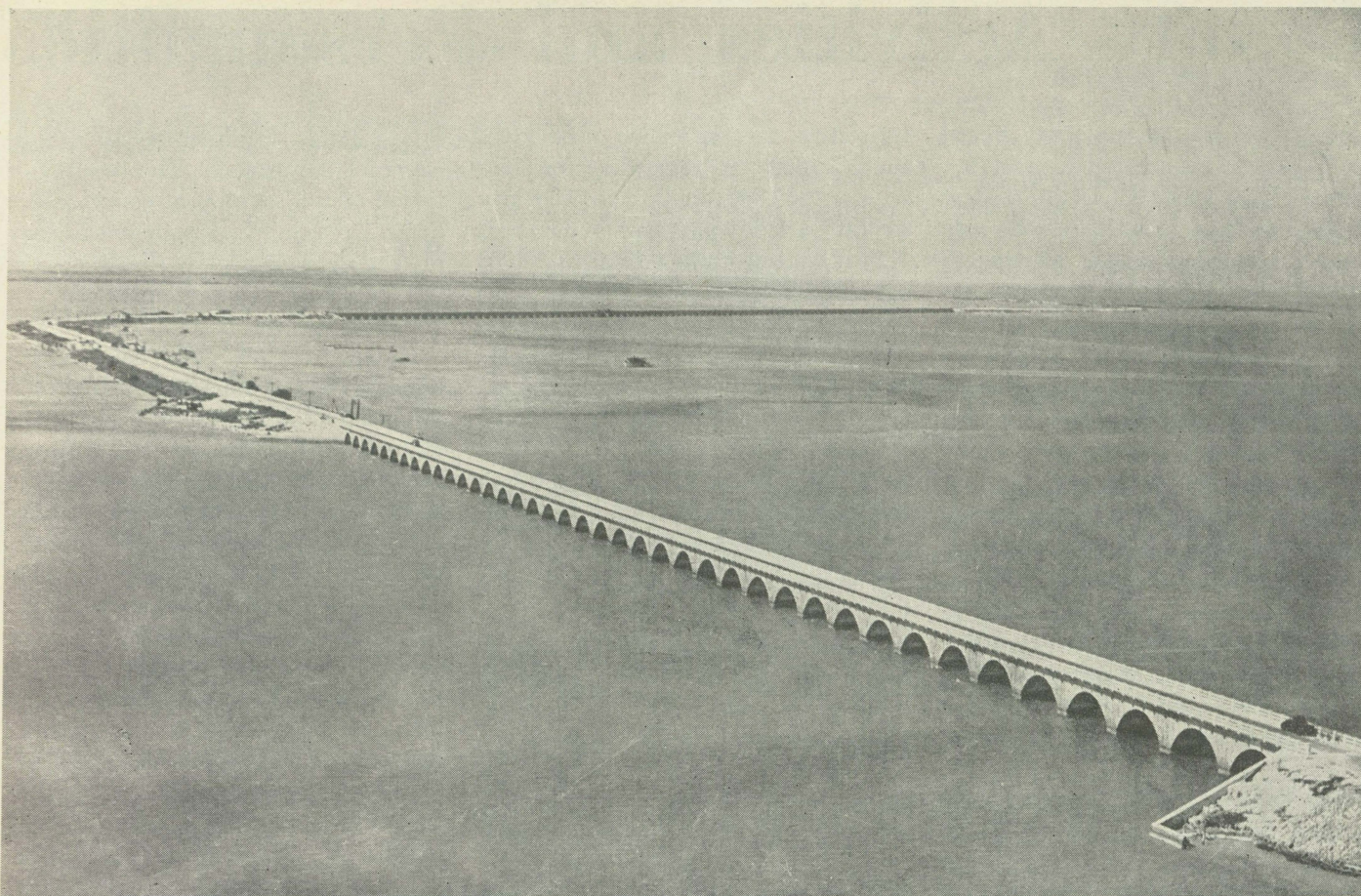
Every living thing depends on every other living thing to live! Again I remembered my high school biology teacher . . .

One day, I saw a red-shouldered hawk sitting on a fence post holding a snake in his sharp talons. Deliberately he tore it to pieces with his beak and ate it. I also found snake bones under the roosts of owls where they had disgorged them after digesting the meatier parts of the snake.

There is a large cypress swamp with an open pond in the center and a small marsh on the outside at Hillsborough River State Park. Some two hundred egrets, ibises, Ward's herons and little blue herons build their nests so close together they almost touch one another. Early in the morning the birds fly off in great flocks and forage in the pond and marsh to find food for their young. The ground under the cypress is often white with

*(Continued on Page 23)*





*A section of the Overseas Highway (U. S. 1) from the Florida mainland to Key West. View looking South toward Long Key. Arched piers built to support Florida East Coast Railway by Flagler, pioneer South Florida developer. Not only right-of-way and substructure, but even the rails of the old railroad were used for the highway—as guard rails.*

## Beauty of Keys To Be Preserved . . .

The Overseas Highway to Key West is unique in the strictest sense of the word. It is without parallel and unmatched not only in Florida and the United States, but throughout the world.

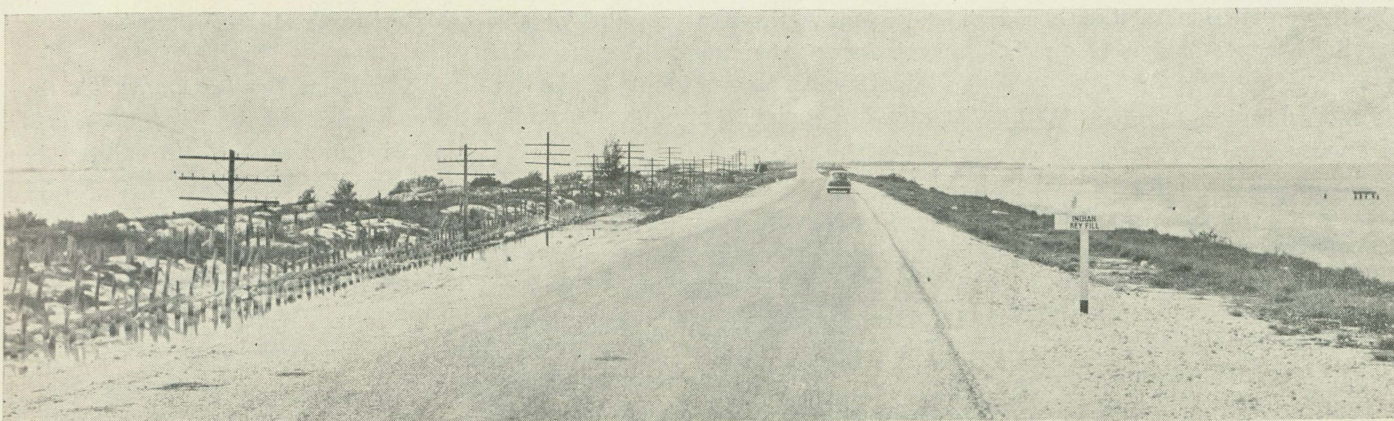
This modern highway that “goes to sea” for 110 miles from the Florida

mainland to Key West is laid on, over, and between a chain of coral islands set like gems in the azure blue water where the Atlantic and the Gulf of Mexico meet. The islands range in size from a diameter of two or three hundred feet, such as Pigeon Key, described as the world’s smallest in-

habited island, the Big Pine Key which is over 5 miles wide.

By a resolution adopted March 28, the Road Department gives notice that these lovely islands, where beauty reigns supreme and serene, are to be preserved in their natural

*(Continued on Page 21)*



*Fill connecting with Indian Key.*



# County Activities and Personalities

When the **Bradford** County Board of County Commissioners met on June 6 Mrs. Jessie Chastain, widow of the late T. C. Chastain, who was County Commissioner of District 4, took the seat to which she was appointed by Governor Warren to succeed her late husband. It is believed that this is the first time that a woman has held any official position in the Bradford County Courthouse.

\* \* \*

**Marion** County Commissioners awarded a contract to the Florida-Georgia Tractor Company of Orlando for the purchase of a Diesel crawler tractor for immediate delivery. The tractor is to cost the county \$14,978.25 with an allowance of \$4,978.25 on a used tractor.

\* \* \*

**Bay** County has officially opened its new \$600,000 Memorial Hospital. Under construction for the last two years, the hospital was built by federal and county money. Among those attending the ceremony which marked the official opening were Senator Claude Pepper and Representative Bob Sikes representing the government, who declared the hospital a "credit to Bay County," Robert Carter of the State Improvement Commission, Dr. H. A. Schroeder, executive director of the Florida Hospital Association and Tracy Ware of the State Board of Health. The Rev. E. D. McDaniel, new hospital administrator, presided at the dedication which was preceded by a breakfast at the hospital attended by county commissioners, the board of hospital trustees and other guests.

\* \* \*

In **Washington** County, the board of county commissioners and county school board must publish the minutes of all meetings in their local newspaper as a result of a bill introduced by Senator Olin G. Shivers and which became a law without the Governor's signature.

\* \* \*

**Polk** County Commissioners received a pay hike during the recent

legislative session which now gives them \$4,800 per year; they formerly received \$3,600 annually. The pay of the juvenile court's probation officer was raised from \$3,000 to \$3,600 annually, and permitted assistant officers up to \$3,000 instead of the \$2,400 which was allowed. There were 24 Polk County bills introduced and passed in the legislature including rent decontrol in the county, and measures affecting municipalities and schools in the county.

\* \* \*

The **Pinellas** County Commission has filed a deed accepting 13 acres of bayfront land at Bayview on Tampa Bay to be used as a park. The land was given to the county by B. L. McMullen, pioneer resident and native, and will be known as B. L. McMullen Park.

\* \* \*

Joe F. Hammond, **Duval** County Commissioner, and J. T. Lowe, Chief Traffic Officer for Duval County, attended the President's Safety Conference in Washington, D. C. Hammond reported the outstanding recognition given Florida at the meeting. Florida's driver's license law and its administration has been termed the "most effective in the United States" by experts attending the Conference. Hammond said the examinations given applicants for the licenses was described as one of the most comprehensive and thorough tests offered anywhere in the nation while the machinery for issuing permits through county judge's offices was termed the most efficient method in the country. Commissioner Hammond attended the Conference as president of the National Association of County Commissioners.

\* \* \*

**Volusia** County Commissioners awarded a contract to the Industrial Drilling and Boring Corp. of Jacksonville to make river bottom borings at the Seabreeze and Port Orange bridge sites at a total cost of \$13,100. Acceptance of the company's bid by the county commission was recommended

by Reynolds, Smith and Hill, engineers for the project. The borings or taking of soil samples at considerable depth from the river bottom will supply the data needed by the engineers in completing engineering plans.

\* \* \*

**Holmes** County will have a re-registration of voters as a result of a bill passed in the recent legislature and which is now a law. The county commissioners will carry out the provision of the act and provide for the expense thereof in the next county budget which will be made up soon. The re-registration will take place early next year.

\* \* \*

**Suwannee** Board of County Commissioners and School Board will hold two official meetings each month beginning in July following passage of a local bill in the recent session of the legislature. The salaries of the members were raised to \$100 per month. Among other legislation affecting the county according to Rep. Randall Slaughter in outlining measures adopted, the county was authorized to levy up to two mills for agricultural promotion, such as construction of a livestock pavilion. There were a total of 21 local bills, affecting Live Oak and Suwannee County, passed in the recent session Representative Slaughter said.

\* \* \*

**Broward** County's Commissioners received a salary raise by the state legislature which now gives them \$300 per month; they previously received \$150.

\* \* \*

The **Palm Beach** County Commission expects the new Memorial bridge at Riveria Beach to be opened September 16. Plans for holding a dedication ceremony are being made, and Commissioner Kenneth Foster of West Palm Beach was named to arrange the program.

The manufacture of cigar boxes is a sizeable wood industry in the State of Florida.



# Wesley A. Sweat

## Division Engineer

Wesley A. Sweat, who was appointed Division Engineer of the Fifth Division in March, brings to the office a distinguished record of military as well as engineering service.

"Wes," as he is widely known throughout the Road Department, was born in Waycross, Georgia but, except for a short time during World War I, has spent all of his life in Florida. He attended public schools at Boca Grande, Wauchula, Arcadia and Mulberry in Florida and Crafts Public School in Charleston, South Carolina. Upon completion of high school in Mulberry, he entered the University of Florida and was graduated from the College of Engineering with a B.S. Degree in Civil Engineering in 1930.

After a brief engagement as Junior Engineer in the phosphate mines of Central Florida Wesley was employed by the State Road Department at Lake City. During his connection with the Department he has served in many engineering capacities, including draftsman, instrumentman,



designer, location engineer, project engineer and assistant Division Engineer, before receiving his present appointment as Division Engineer. He has been registered under the Florida Board of Engineer Examiners since 1935 and is also a State registered Land Surveyor.

Although his employment with the Department has been unbroken since 1931, Wesley was on a leave of absence for military service in World War II for more than five years. He entered as captain in 1941 and served with the Third Armored Division from

the time of its activation until the unit was de-activated after the war.

After attending the Army Command and General Staff School at Ft. Leavenworth, Kansas, he was promoted to the rank of major and made Plans and Training Officer for the 32nd Armored Regiment. A promotion to lieutenant colonel in 1942 brought with it an assignment to staff duty at the Third Armored Division Headquarters as Assistant Division Plans and Training Officer. He continued to serve as staff officer of the Third Armored Division while in the European Theater from August, 1943 to March, 1946 and was Division Operations Officer from the time of the Normandy invasion until cessation of hostilities.

During combat Wesley was captured and held prisoner of war in a German camp for a short time, but was liberated by British forces and later rejoined the Third Armored Division. His military decorations include, in addition to the American Defense Medal and American Theater Medal, the European Theater Ribbon with 5 Combat Stars; Silver Star; Legion of Merit; Bronze Star with two Oak-leaf Clusters; Purple Heart; Commendation Medal; Croix de Guerre with Gold Star (French); Belgian Fourragere (Belgian Unit Citation); Distinguished Unit Citation (U.S.); Victory Medal and Army of Occupation Medal.

Upon his return home in March, 1946, Wesley resumed work with the Road Department as Senior Project Engineer of the Fifth Division with headquarters at DeLand.

He is married and has two sons, Wesley A., Jr., 14 and Donald, 10. He is a home owner and resident of DeLand, having moved there with SRD offices from Jacksonville in 1939.

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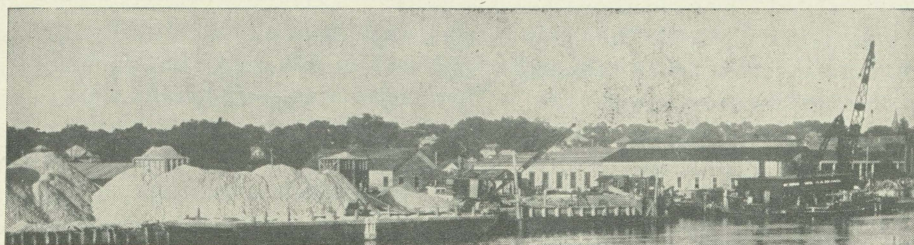
FLA.

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# World-Wide Road Rules Urged

ON A PLANET where distance is shrinking constantly in the wake of scientific progress, traffic problems are destined to become international in scope. To cope with the difficulties of inter-country motor travel, a world-wide system of standardized highway markers has been proposed by a United Nations sub-committee.

The UN's subcommittee on road transport also has suggested an international agreement on traffic regulations, safety devices, vehicle registration and drivers' licenses.

Traffic deaths can be predicted with horrifying accuracy; in the U. S. alone the figure is from 30,000 to 33,000 each year. If Europe had an equivalent number of automobiles, the toll would doubtless be greater because of the language differences which promote traffic confusion.

The touring American motorist who has hitherto found himself confronted with bewildering foreign signposts and unfamiliar traffic laws will, if the international traffic agreement is adopted, be able to proceed with equal ease abroad as he has at home.

## Language Differences

The reverse would also be true and the foreign tourist travelling in this country would not be hindered nor would he be the cause of fatal accidents due to his inability to read and heed our traffic signs.

It is not for the relatively few inter-hemispherical travellers that the proposal is primarily intended. Where such an agreement would function to its best advantage would be in the member nations of Europe, separated from each other much as our states are, by rivers and imaginary lines, but with the vital difference of language dissimilarities.

European and American travel experts will sit down together this summer to draw up a new set of rules and regulations for the roads of the world. They will come from 68 countries to the world-wide Conference on Road and Motor Transport sponsored by the UN which will open this August in Geneva, Switzerland.

## United Nations Subcommittee Plans Standard System of Highway Signs for Planet; Also Seeks International Traffic Regulations

### Seek Standardization

From the conference it is hoped there will emerge a greater degree of standardization on signal systems, danger and directional signposts and more exact regulations of the type of headlights, brakes and vehicular appliances needed for foreign travel.

The experts will not seek to reconcile all the existing differences in traffic laws but they do seek to eliminate some of the accident risks and handicaps to foreign travel.

The idea is not new. The old League of Nations tried it in 1926 but failed to get the proposal adopted. Later attempts to revise the League's proposals were interrupted by the war. It has now been decided to scrap the League's proposal entirely and start afresh.

The writers of the 1949 convention will have the advantages of the work during the past year by the Economic Commission for Europe which has been preparing a preliminary convention, a "working paper" has been submitted to the conference by the nations which signed the Inter-American Traffic Convention in Washington in 1943.

It is hoped the Geneva Conference, with a timetable of from six to eight weeks, can complete an entirely new convention which will contain certain basic provisions which would be essential for the functioning of any kind of agreement. These provisions would cover such items as the safety equipment on vehicles; horns, brakes, mufflers, mirrors and windshield wipers. Some standardization of the vehicle registration laws and driver-license regulations will be attempted.

In addition, certain construction minimums on highways, bridges, etc.,

would be adopted for safety on the roads.

Each of these proposals would be placed in "annexes" to the basic agreement so unanimity on the principal agreements may be reached and nations may sign the basic agreement and as many of the annexes as they may deem advisable. In such an event the way is left open for future acceptance of annexes which were refused at first.

### 'Sign Language'

One of the most startling annexes to the proposal is the one which would standardize the world's road signs. They would be printed in a "sign language" so words would not be necessary.

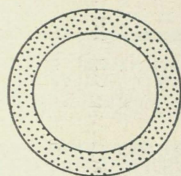
The signs would be broken into three classes: danger signs; instructional signs giving (1) prohibitions, and (2) commands; and information signs giving (1) indications, (2) directions, and (3) advance directions, place and route identifications.

For the danger signs, the shape would be triangular. The instructional signs would be circular. The informational signs would be rectangular or square and the shape and position of the sign be indicative of the type of information contained in the sign.

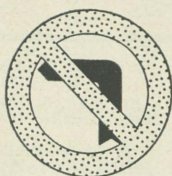
No language would be necessary when a motorist saw a triangular (danger) sign on the road with the picture of a cow. He would immediately know there was a cattle crossing ahead. Little imagination would be necessary to presume the road ahead could be slick under certain conditions if the driver saw a triangular sign with the silhouette of a car careening on two wheels with snaky skidmarks behind it.



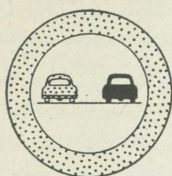
# Highway Symbols Tell Story Without Words



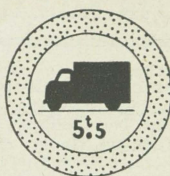
Road closed.



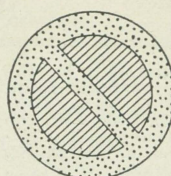
No turns.



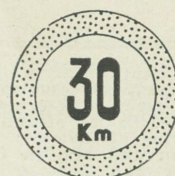
No passing.



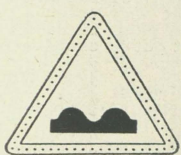
Weight limit.



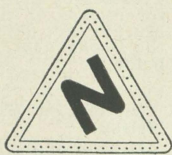
No parking.



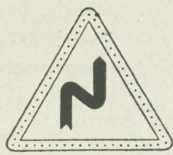
Speed limit.



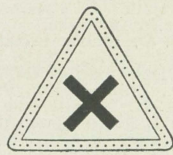
Rough road.



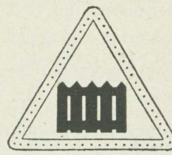
Dangerous bend.



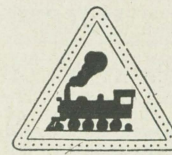
Ziz-zag road.



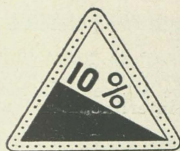
Intefsection.



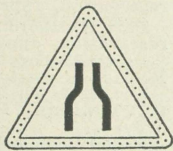
Crossing, with gate.



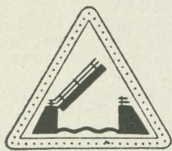
Crossing, no gate.



Hill ahead.



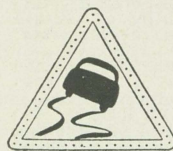
Road narrows.



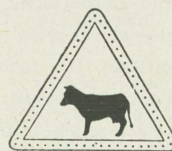
Drawbridge.



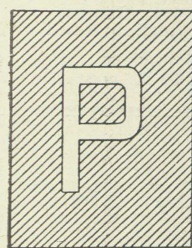
Men working.



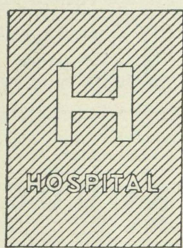
Slippery road.



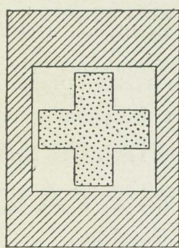
Open range.



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## Signs Without Words

The picture of two children walking would show danger for children and the driver would watch for a school or playground. A man digging would immediately mean "men at work ahead" in any language.

Many other language-difficult admonitions have been by-passed through clever resort to sign concepts. Any item contained in a color band in a circular sign is automatically forbidden. Thus, if a bicycle is pictured inside a circle of color, bicycles are forbidden on that road. Likewise, a picture of two cars side by side, one passing the other, the passing car in color inside a color circle; passing is prohibited. A truck in a color circle with "5.5t" below it automatically means trucks over five and a half tons are prohibited.

Mandatory signs would be of dark

blue background with white figures. A cyclist seeing a picture of a cyclist on such a sign situated on a cycle path would know it was mandatory for him to use the cycle path to the exclusion of all other traffic.

## Travel Increasing

With the abolition of many of the restrictions on travel and diminishment of the dangers and problems pertaining thereto, it is possible that travel in Europe will be increased and the peoples of the various nations will come to know each other as we know the citizens of our various states. Knowing each other better, they may come to admire and respect each other more. This could lessen the intense nationalism which has, in the past, contributed to the outbreaks of war which have ravaged the continent since the dawn of history.

A Tree Farm is a tract of land on which the owner practices reforestation, fire protection, selective harvesting methods, and proper utilization.

The great Tillamook fire of 1933 burned 236,000 acres of trees in Oregon. Yet, when it started, a boy with a bucket of water could have put it out.

Tree farmers leave seed trees to help reforest their land. Respect these "mother" trees. They help insure our pine tree prosperity.

## URBAN

(Continued from Page 9)

Maintained system it has added heavily to Road Department obligations. These routes are by far the heaviest travelled in the State, have to be built to the highest standards and require a high proportion of state revenue available for highway improvement.



# Transactions of Meetings of Florida State Road Department

HELD IN TALLAHASSEE, JUNE 14, 1949

Pursuant to agreement, and call by the Chairman, the Members of the State Road Department of Florida met in Tallahassee on the 14th day of June A. D. 1949, with the following attendance: Chairman A. A. McKethan and Marion G. Nelson, Merrill P. Barber and Trusten P. Drake, Members. Secretary Robert O. Ghiotto was present, as were also David V. Kerns, Resident Attorney, Sam P. Turnbull, State Highway Engineer and other engineers and members of the Department's personnel requested by the Chairman to attend.

## APPROVAL OF MINUTES, MEETING HELD AT TALLAHASSEE, MAY 26

On motion of Mr. Nelson, seconded by Mr. Drake, the minutes of the meeting held at Tallahassee on May 26, 1949 were approved.

## APPROVAL OF CONTRACTS

On motion of Mr. Drake, seconded by Mr. Nelson, the following resolution was adopted:

WHEREAS, pursuant to due advertisement, the Department did on May 11, 1949 receive bids for the furnishing of certain quantities of concrete pipe in varying sizes; and

WHEREAS, the firms hereinafter named were and are hereby declared to be the lowest responsible bidders thereof,

NOW, THEREFORE, BE IT RESOLVED that the action of the Chairman in awarding the contracts to the two firms set out below be and the same is hereby approved, as follows:

Florida Concrete Pipe Co., Rd. 225, Sect. 2811-102, Bradford County, \$2,675.84.  
Sherman Concrete Pipe Co., Rd. 225, Sect. 2811-102, Bradford County, \$2,675.84.

## APPROVAL OF SUPPLEMENTAL AGREEMENTS

On motion of Mr. Barber, seconded by Mr.

Drake, the following supplemental agreements were approved:

A. F. Rich Co., Co. Roads, 5575-101 etc., Leon, No Change.

Brinson Const. Co., 5, 9302-107 etc., Palm Beach, \$240.00 Increase.

Duval Engr. & Contr. Co., 21, 7217-107, Duval, \$211.20 Increase.

L. L. Hall Const. Co., 18 FAS, E-33(1), Bradford etc., \$677.51 Increase.

Faulk & Coleman, 371, 5516-104, Leon, \$595.25 Increase.

J. D. Manly Const. Co., 197 FAS, S-242(1), Santa Rosa, \$885.95 Increase.

Cleary Bros. Const. Co., 80-A1A, 9375-102 etc., Palm Beach, \$4,660.00 Increase.

R. H. Wright and Son, Inc., 5 FA, FI-63(5) Pt. 1, Palm Beach, \$42.58 Decrease.

Cleary Bros. Const. Co., 6, 5103-109, Gulf, \$3,046.50 Decrease.

Faulk & Coleman, Streets, 5175-101 etc., Gulf, \$4,187.59 Decrease.

## COUNTIES REQUESTED TO OBTAIN RIGHT OF WAY

Routine resolutions requesting the county to acquire needed rights of way were adopted covering the following sections of road:

Gadsden, 269 Alt., 5018, From State Road 10 E of Chattahoochee N'y to Georgia State Line. Nelson, Barber.

Lafayette, 20, 3301, From Taylor Co. Line E'y 500', Drake, Barber.

Lake, 500, 1101, From Road 25 E'y through Leesburg to jct. Rd. 500 and Rd. 44 at Silver Lake. Drake, Nelson.

Polk, 35, 1621, Along Florida Ave. from 5th Street to 10th Street in Lakeland. Nelson, Barber.

Taylor, 20, 3803, From Fenholloway E'y to LaFayette County Line. Barber, Drake.

## REVISED AND AMENDED MAP OF LOCATION AND SURVEY

Brevard, 3, 7013, For resolution of July 26, 1948. Drake, Nelson.

## I. I. BOARD REQUESTS FOR R/W RELINQUISHMENTS IN MURPHY ACT DEEDS

The Board took action on the recommendation of the Engineer on requests from the Trustees of the Internal Improvement Fund for release of right of way reservations in Murphy Act deeds and parts thereof held by the Department, as set out in each case listed below:

### 1st Division

On motion Mr. Barber, seconded by Mr. Nelson.

Hillsborough, 1388, 1015, 600, Release all of reservation EXCEPT within 50 ft. centerline Rd. 600 through Lots 23 to 30 inc. Blk. 5, Homelands Subdiv., approved.

Part Hillsborough, 2666, Release all of reservation, approved.

Part Hillsborough, 3198-Cor., Release all of reservation, approved.

Part Hillsborough, 08-Chap. 21684, 1018, 685, Release no part of reservation, approved.

Lee, 1202, 80, Release all reservation EXCEPT within 75 ft. centerline Road 80, approved.

Part Pinellas, 2118, 1515, 55, Release no part lying within R/W Sect. 1515, Rd. 55; release all EXCEPT within 50 ft. centerline Road 582, approved.

Part Pasco, 675, 1403, 55, Release no part of reservation, approved.

Pinellas, 2119, 1506, 694, Release all EXCEPT within 50 ft. centerline Road 694, approved.

Part Pinellas, 2173, 1515, 55, Release all EXCEPT lying within 50 ft. centerline Road

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582; release no part reservation affecting Lot 23, approved.

Pinellas, 1463, 1509, 687, Release all EXCEPT within 50 ft. centerline Road 687, approved.

Part Pinellas, 2487, 1509, 687, Release all EXCEPT within 50 ft. centerline Road 687, approved.

Polk, 2432, Release all of reservation, approved.

#### 5th Division

On motion of Mr. Drake, seconded by Mr. Nelson.

Part St. Johns, 84, 7801, Old Rd. 95, (King St.), Release all except within 50 ft. centerline of King Street, approved.

#### REQUEST FOR RELEASE OF BORROW PIT TO COLLIER DENIED SECTION 0911, ROAD 66, HIGHLANDS COUNTY

The Board considered a letter from Mr. M. R. McDonald, Attorney for Highlands County, requesting that the State Road Department easement No. 68, for borrow pit and drainage ditch acquired for Road 66 in Highlands County, be reconveyed to D. O. Collier and wife, Viola Collier. The recommendation from the Engineer was that it be retained until the date when said easement expires, March of 1950, and on motion of Mr. Nelson, seconded by Mr. Barber, the recommendation of the engineer was sustained and the request denied.

#### DELEGATIONS AND REQUESTS

##### Polk County

Messrs. Edward D. Dishong and Eugene A. Laurent, County Commissioners from Polk County, asked the Board to take over for maintenance the road between Fort Meade and Frostproof, stating that practically all of the right of way has been acquired. The Chairman advised that the Road Board had taken no steps to increase the State Maintained System because of the shortage of funds, but that Polk County's request would be given proper and careful consideration.

##### Suwannee County

Mr. David Kerns, the Department's Resident Attorney, reported to the Board that Representative W. R. Slaughter of Suwannee County had called for an appointment with the Board for a delegation from Live Oak, in Suwannee County, and he had advised him it was not likely that they could arrive before the adjournment of this meeting. Mr. Kerns said Mr. Slaughter asked that the delegation be recorded as urging the paving of an access road to the tobacco warehouse, a distance of approximately 2500 feet.

#### ROAD TO CEDAR KEY AIRPORT—MAINTENANCE REFUSED

The Board received resolution of the Board of County Commissioners of Levy County, Florida requesting the Department to formally declare its refusal to improve, construct and maintain the road hereinafter described, as a part of the State Maintained System. On motion of Mr. Nelson, seconded by Mr. Drake, the following resolution was adopted:

BE IT RESOLVED by the State Road Department of Florida that, inasmuch as the improvement, construction and maintenance of that certain road in Levy County, Florida, together with bridges thereon, which was designated as a state road by the Legislature of the State of Florida by Chapter 20771, Laws of Florida, Acts of 1941, as follows: "A road beginning at Ninth Street in the Town of Cedar Key and running by the nearest or most practical route to the Cedar Key airport," does not appear, in the judgment of the Department, to be practicable and to the best interest of the State at the present time or within the foreseeable future, the Department does hereby refuse to accept said road and bridges thereon as a part of the state-maintained system of roads.

#### TRANSFER OF FISCAL MADISON COUNTY FUNDS

The Board received a resolution adopted June 1, 1949 by the Board of County Commissioners of Madison County, Florida, re-

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questing that a portion of the proceeds of the sale of the Florida State Improvement Commission Series 22 Madison County Road Bonds allotted for the construction of a portion of Project No. 1 in Madison County be transferred, along with available Federal and other State funds, to the construction of a parallel portion of State Road 14 southwest of Madison.

On motion of Mr. Drake, seconded by Mr. Barber, the following resolution was adopted:

WHEREAS, the Board of County Commissioners of Madison County, Florida, by formal resolution adopted June 1, 1949, have requested that a portion of the proceeds of the Florida State Improvement Commission Series 22 Madison County Road Bonds allotted for the construction of a portion of Project No. 1 in Madison County road program be transferred, along with available Federal and other State funds, to the construction of a parallel portion of State Road 14 southwest of Madison; and

WHEREAS, the consent of the holders of said bonds and the agreement of the Florida State Improvement Commission to such transfer of funds are prerequisite to its consideration,

NOW, THEREFORE, BE IT RESOLVED by the State Road Department of Florida that necessary and proper steps be taken to ascertain whether the consent of the holders of said bonds and the agreement of the Florida State Improvement Commission will be given to such transfer of funds.

#### REPAYMENT FOR CERTAIN WORK ON ROAD 5, PALM BEACH COUNTY

The Board considered the request from Palm Beach County to be relieved of the obligation incurred by its agreement of July 22, 1946 to repay the Department for the cost of the resurfacing of certain streets in West Palm Beach. On motion of Mr. Nelson, seconded by Mr. Drake, the Department agreed to deny the request and directed the General Auditor to request payment of the account.

#### BRIDGE TENDERS IN PRIVATE BUSINESS ON JOB

The Board again took up the matter of policy in permitting bridge tenders to engage in private business at or near the site of their jobs, and on motion of Mr. Drake, seconded by Mr. Nelson, agreed to leave this matter in the hands of the respective Division Engineers, with authority to handle each case on its own merits and in the light of the local conditions.

#### SPEED ZONE ON ROAD 45 BETWEEN BRADENTON AND SARASOTA

On motion of Mr. Drake, seconded by Mr. Nelson, the following resolution was adopted:

WHEREAS, the State Road Department of Florida has heretofore determined, upon the basis of an engineering and traffic investigation, that the state speed limit provided by law is greater than is reasonable and safe under the conditions found to exist on State Road 45 between the south city limits of the City of Bradenton, Manatee County, and the north city limits of the City of Sarasota, Sarasota County; and

WHEREAS, from such engineering and traffic investigation the State Road Department deems that a maximum speed limit of 35 miles an hour between the south city limits of the City of Bradenton, Manatee County, and the intersection of State Road 684, and a maximum speed limit of 45 miles an hour from said intersection of State Road 684 to the north city limits of the city of Sarasota, Sarasota County, is necessary for reasonable safety thereon; and

WHEREAS, the Department of Public Safety of the State of Florida, through its Director, the Honorable H. N. Kirkman, has concurred in requests for the designation of a speed limit on said road,

NOW, THEREFORE, BE IT RESOLVED by the State Road Department of Florida that it does hereby determine and declare that a reasonable and safe speed limit on State Road 45 from the south city limits of the City of Bradenton, Manatee County, to the intersection of State Road 684 is 35 miles per hour maximum; and on said State Road 45 from said intersection of State Road 684 to the North City limits of the City of Sarasota, Sarasota County, is 45 miles per hour maximum; and that appropriate signs giving notice of said speed limit shall be erected at appropriate intervals on both sides of the pavement of said sections of said State Road 45.

#### ADJOURNMENT

There being no further business ready for action at this time, the meeting adjourned, subject to call by the Chairman.

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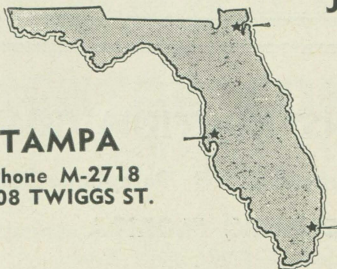
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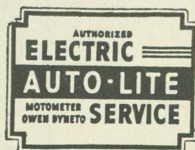
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(Continued from Page 13)

attractiveness in so far as it is within their power to keep them so.

The resolution is as follows:

### Proposed Master Plan For Overseas Parkway

On motion of Mr. Barber, seconded by Mr. Nelson, the following resolution was adopted:

WHEREAS, this Board believes that the area along the Florida Keys traversed by the Overseas Highway, particularly that part owned by the Overseas Road and Toll Bridge District, is a valuable asset to the State of Florida and should be given all possible consideration with a view to its highest potential development as a scenic and recreational area for the citizens of Florida and its visitors for all time to come; and

WHEREAS, following considerable study this Department adopted in 1946 a plan for such development, and this Board feels that no part of the land should be sold or leased for any use that would be detrimental to the value of the plan as a whole, and

WHEREAS, the changing conditions appear to necessitate additional study before further decisions can be intelligently made,

NOW, THEREFORE, BE IT RESOLVED that all requests for the leasing or purchasing of lands owned by the Overseas Road and Toll Bridge District be deferred until such time as a master overall plan for the area as an Overseas Parkway has been adopted.

BE IT FURTHER RESOLVED that this Department join with the District in requesting the National Park Service and the Florida Park Service to make a comprehensive survey of the area traversed by the Overseas Highway from the mainland to Key West and offer suggestions and recommendations based on their present standards for similar park developments;

BE IT FURTHER RESOLVED

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that the Trustees of the Internal Improvement Fund be requested to make no further disposition of lands under their control adjacent to the Overseas Highway until this study is completed and the overall plan for development adopted.

The main safeguard that can be taken at this time is to prevent and prohibit the erection of unsightly road signs and "jooks" along the road right-of-way. We may confidently depend on the National Park Service and the State Park Board to produce

a plan which, in the words of the resolution, will make possible the "highest potential development (of the Keys) as a scenic and recreational area for the citizens of Florida and its visitors for all time to come."

#### OUR COVER PAGE

**OVERSEAS HIGHWAY**—More than 15 miles of elevated highway, spanning the Atlantic Ocean and the Gulf of Mexico, extends from Miami to Key West. The state highway was erected at a cost of \$40,000,000. The above picture was made at Pigeon Key, site of the "Seven Mile" bridge.—Miami News Bureau Photo.

Statement of the Ownership, Management, and Circulation Required by the Act of Congress of August 21, 1912, as Amended by the Acts of March 3, 1933, and July 2, 1946 (39 U. S. C. 233)

Of Florida Highways published monthly at Orlando and Tallahassee, Florida, for January, 1949.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, J. E. Robinson, Orlando, Fla. Editor, Ralph Hartsfield, Tallahassee, Fla.

2. The owner is: J. E. Robinson in Trust, Orlando, Fla.

3. The known bondholders, mortgagees, and other security bondholders or holding 1 percent or more of total amount of bonds, mortgages, or other securities, are: None.

J. E. ROBINSON, Publisher.

Sworn to and subscribed before me this Thirtieth day of June, 1949.

(SEAL) J. W. WRAY, Notary Public.

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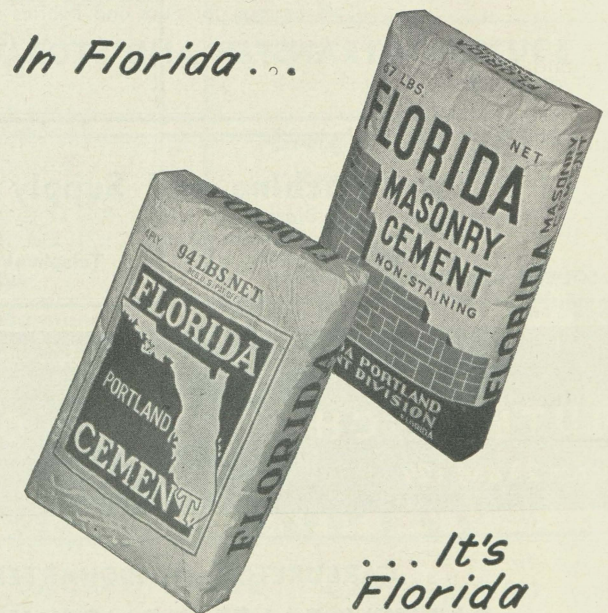
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## NATURE'S

(Continued from Page 12)

their droppings, but this dissolves in the water and seeps into the river. Of course, this fertilizer from a rookery adds fertilizer to the water so that water plants can grow and the fish in the river depend on water plants which aerate the water. If you would like to prove this, catch a couple of minnows in a tin can without touching them, and put them in a glass jar with some water plants which you pulled up from the same pond. Then catch two more minnows in the same manner and put them in water, without any water plants. The first two minnows will live; the second two minnows will die. Of course, many of you can remember way back when your biology teacher did that.

*The water plants depend on bird rookeries;*

*The rookeries depend on the cypress trees and ponds;*

*The birds in the rookeries must have frogs, crayfish and water snakes for food;*

*The frogs depend on insects;*

*The insects depend on plants . . .*

It's either a vicious circle or else it's a dependable cycle.

A few years ago, I saw a bird with a major motif of black feather plus a bright red crest and a white stripe down his face and neck. He was about a foot and a half from beak to tail. He was a noisy bird and, inside the confines of the park, fairly tame. He was none other than the famous "pileated woodpecker," the last word of ultra-ultimates in woodpeckers—

yea, a woodpecker that any old tree could boast about.

A few weeks later, a man from Chicago drove up to the park entrance gate and said almost breathlessly:

"I want to see that pileated woodpecker."

Luck had the moment. The gatekeeper took his pipe from his mouth and pointed with the stem of his pipe

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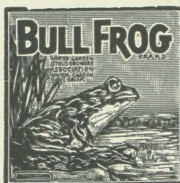
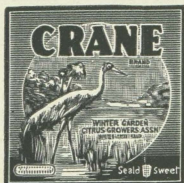
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toward a bird busily drumming on a pine tree not twenty feet away.

"There he is, mister!"

The man from Chicago did not reach for his binoculars. He didn't need them. He just sat still in his car and watched the gorgeously colored woodpecker until the bird had pecked himself out of interest on that particular pine tree and then he flew away.

Said the man from Chicago, "I

drove all the way from the Windy City to see that bird and, by jimminy-gee-hosaphat, it was well worth the trip."

The pileated woodpecker, by the way, lives on wood "sawyers" or borers which are found in great numbers in trees that have rotted where they are standing. A tree that has been dead for two years contains food for him; and he spends a great deal of time tearing inch-thick clumps out of it in order to gobble up the wood "sawyers."

One day, an elderly man, who visited the park was resting in the pavilion and watching the park rangers as they tried to get a rotten branch off a tree which shaded a picnic table. The elderly man was much perturbed. He called the park superintendent.

"Why under the sun are they taking that rotten branch off the tree?" the elderly man inquired, pointing towards the hard-working park rangers. "Man alive, you'll take all the attractions for pileated woodpeckers away from this place!" he exclaimed, and then added: "Old fellows like me can't go hiking deep in the woods to observe the birdlife."

With difficulty, the park superintendent explained to him that the particular rotten branch in question was dangerous to visitors who might be eating a picnic lunch on the table under it, if a sudden gust of wind blew the rotten limb down either on some one's head or into the middle of some one's picnic lunch. The park superintendent also explained that park policy permitted Nature to follow her course, as a general rule, and that other rotten limbs nearby would not be disturbed and that the woodpeckers would get plenty to eat. The elderly man was satisfied.

Florida's state parks have come in answer to the call,

"Back to nature."

And the best way sometimes is on foot, along the nature trails at the park.

The Oregon maple tree has a bark that resembles comforter quilting.

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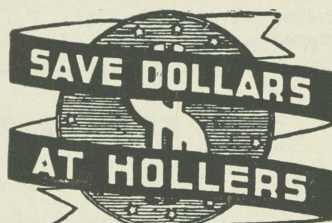
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## ADEQUACY

(Continued from Page 7)

In comparing the deficiencies and estimated expenditures needed for their correction, it is to be remembered that while only 10 percent of the Nation's mileage are primary State highways, they carry 38 percent of all traffic; 81 percent, which are secondary and local roads, carry 12 percent of the traffic; and 9 percent, which are city streets, carry 50 percent of the traffic.

### Nature of Highway Deficiencies

At this point it may also be of value to the highway industry to have a general idea of the nature of the work that will be needed to correct highway deficiencies so that equipment production, acquisition and contractors' organizations and capacity can be geared or slanted to the work ahead. From the items of work listed in the reports of State-wide highway needs studies, it is disclosed that 48.1 percent of the combined State, county and local needs are on the surface; 21.7 percent, structures; and 30.2 percent, all other items. The following is a further breakdown of the work for State and local highways. It is also illustrated in Chart I, attached to the text.

### Inadequate Highway Construction Rate in Relation to Expanding Commercial Vehicle Registrations, Overweights and Ton-Miles Hauled

State-wide highway needs surveys are not the only clarions calling attention to existing highway problems. Records of motor-vehicle registrations and of expanding highway use are self-explicit. Motor-vehicle registrations rose from 10,493,666 in 1921 to 41,151,326 in 1948; the latter figure includes 7,555,330 trucks. Motor-vehicle travel expanded from 55 billion vehicle-miles in 1921 to 395 billion vehicle-miles in 1948. The frequency with which your car at higher modern speeds passes a truck on an obsolete 18-foot paved width may be reflected by the fact that in 1904 the ratio of trucks and busses to passenger cars was 1 to 78; by 1910 this ratio had become 1 to 45; in 1920, 1 to 7.3; in 1930, 1 to 6.5; in 1940, 1 to 5.9; and in 1948 it was a ratio of 1 truck and bus to 4.5 passenger cars.

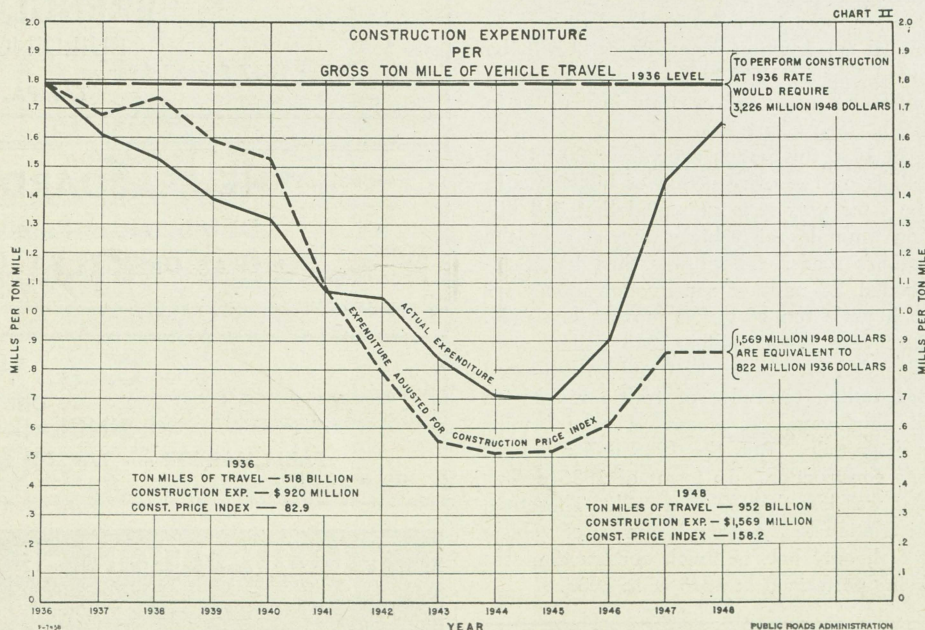
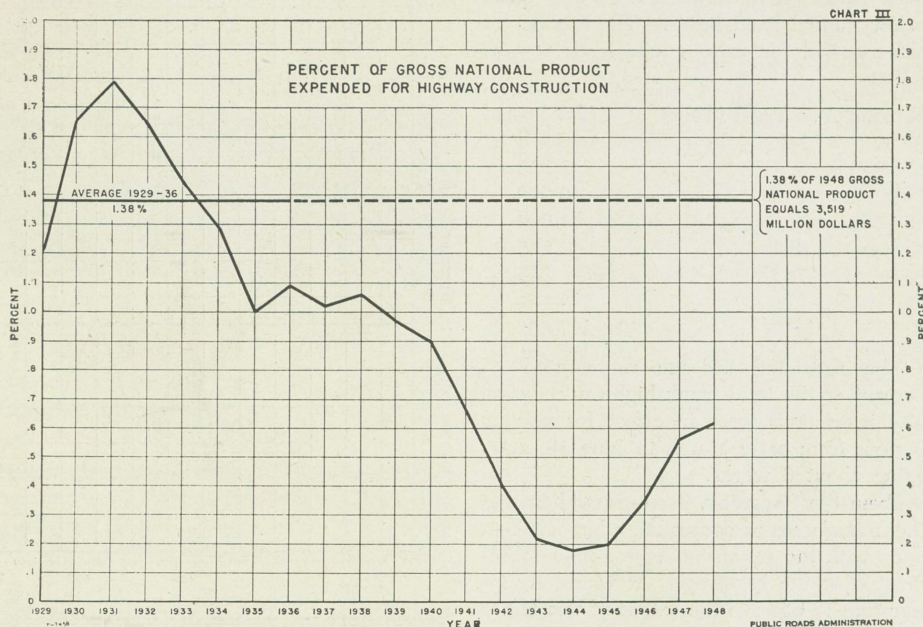
## CRYSTAL ICE WORKS

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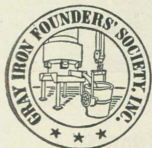
The frequency with which overweight trucks are deteriorating pavements is also to be noted. From counts made in Illinois at loadometer stations during the period of investigation, the total yearly occurrence of tractor-semitrailer and truck-and-trailer types of combinations on roads at these locations was determined to have been 3,016,260 in 1945 and 3,361,285 in 1946. Of these

totals 11.5 percent, or 346,870 units, exceeded the 18,000-pound limit in 1945; and 15.5 percent, or 521,000 units, exceeded the 18,000-pound limit in 1946. The overload occurrences were determined only for loadometer station locations and were not projected to an estimate of occurrences throughout the State.

Another indication of the insufficiency of



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the present rate of highway improvement is the need for load restrictions during the spring break-up. These load restrictions are needed to protect road surfaces from destruction and to keep roads passable and in reasonably good condition for travel by all but the largest loads.

As an illustration, in the spring of 1948 a total of 7,638 miles of trunk highways were restricted in Minnesota to axle loads below normal legal limits. The number of miles posted for various axle loads was as follows:

| Maxium Axle Load (Tons) | Miles Posted |
|-------------------------|--------------|
| 1.5                     | 9            |
| 3                       | 1,822        |
| 4                       | 3,313        |
| 5                       | 1,900        |
| 6                       | 245          |
| 7                       | 349          |
| Total 7,638             |              |

The restricted mileage represented 68 percent of the total trunk highway mileage. The restrictions were in effect for varying periods from early March to June 10, averaging about 6 weeks.

From the foregoing, it seems evident that the annual rate of construction has not kept pace with the expansion of ton-mile movement over the highways. It would be interesting to observe the extent of this lag in relation to ton-miles of traffic. Converting passenger and commercial vehicle-miles traveled into ton-miles and relating it to annual construction expenditures, it will be found that in 1948 only one-half as much highway construction was put in place as in 1936. (See Chart II.)

In 1936 this nation expended 920 million dollars on the construction of highways. In the same year it is estimated that 518 billion ton-miles of vehicles moved over the nation's roads. There was then being expended 1.8 mills of construction money for each gross ton of traffic moving one mile. Last year 1,569 million 1948 dollars were expended for construction and an estimated 952 billion ton-miles of traffic moved on the highways. It amounted to 1.7 mills per ton-mile. But, the 1948 dollar bought less construction. In terms of 1936 dollars this was less than .9 of a mill. Therefore, in relation to the gross ton-miles of vehicle travel, only half as much construction was being performed in 1948 as in 1936.

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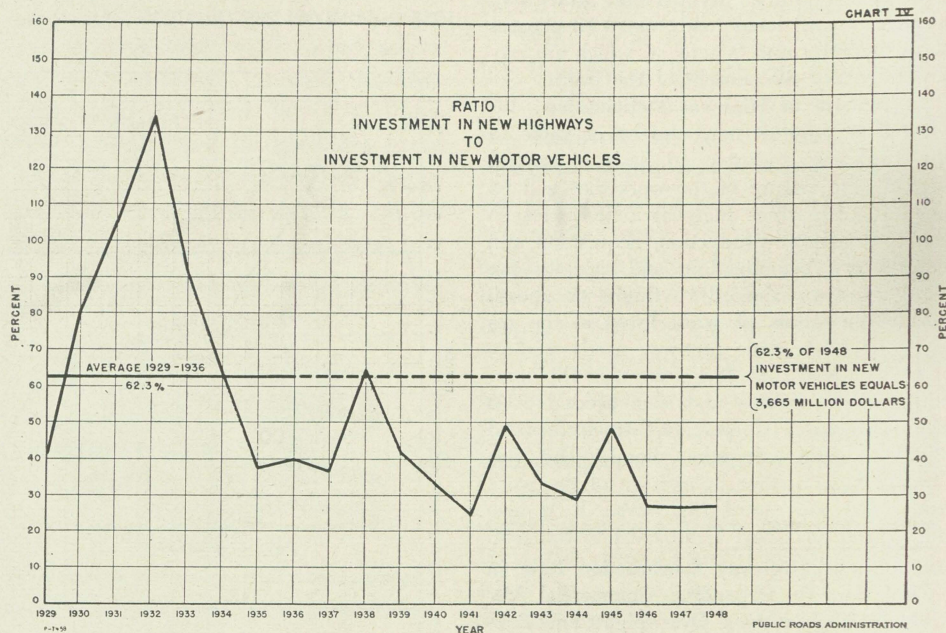
FLORIDA

### Inadequate Highway Construction Rate in Relation to Business Trends

Passenger vehicle movement and truck hauling within legal size and weight limits are, of course, essential in supporting agriculture, industry and our standards of living. Without transportation there would be little

point in the farmer growing more than he could consume himself, and the factory, with its low-cost mass production techniques, must have millions of customers. It will be well to reflect on how the highways are used in the business of the day.

Motor trucks in winter carry the major



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body installation. The reliance on highway transportation is heavy in the assembly plant processes. Space limitations make it impossible to store enough parts to feed production lines for more than a few hours or a few days. The automobile makers, therefore, use the rolling truck itself as a warehouse and reduce inventory and handling costs.

Small business has equally integrated the use of the highway in daily operations. The corner grocery store, which formerly bought in large quantities because of the length of

time it took to receive shipments, can now operate on much smaller inventories because of the frequent delivery of merchandise.

These are but a few reflections of how highways are used in business. How did highway production keep up with the business trend (Chart III.) Some indication may be obtained by comparison with the gross national product. It fluctuated during 1929-1936 but, using the average as a base, highway construction expenditures were 1.4 percent of the gross national product. In 1938 they were 1.1 percent; in 1940 they were .9 of 1 percent; in 1942, four-tenths of 1 percent; in 1944 they were at a low of .2 of 1 percent; but by 1948 they were back up to .6 of 1 percent. In 1948 the gross national product was 255 billion dollars, and highway construction expenditures were 1 billion 569 million dollars. The 1948 ratio of .6 of 1 percent again discloses that the rate of highway production would have to be doubled to approach the 1929-1936 highway construction rate of 1.4 percent of the gross national product.

#### Inadequate Construction Rate in Relation to Rate of New Motor-Vehicle Acquisition

As a last analysis, a comparison has been made of the annual construction expenditure with the expenditure of the transportation partner in the purchase of new rolling stock (Chart IV). In the period 1926-1936 highway construction expenditures averaged 62 percent of expenditures for new motor-vehicles. This ratio fluctuated downward until the period 1946-1948 when the highway construction expenditures amounted to 27 percent of expenditures for new motor-vehicle purchases. Here again is shown the fact that highway construction is lagging at least 50 percent behind the rate of new rolling stock acquisition.

#### Restatement

It has thus been shown that the Economic Report of the President, transmitted to the Congress in January 1949, indicates that the rate of highway construction expenditures should be double the 1948 rate to meet highway transportation needs. State-wide highway needs surveys and field inspections disclose that actual accumulated highway deficiencies by far exceed this amount. It has also indicated that the 1948 rate of highway construction should be at least doubled to keep up with the ton-mile movement over the highways, the business being handled on the highway as reflected by the gross national product, and with the rate at which new rolling stock is being acquired

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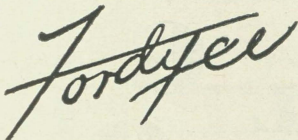
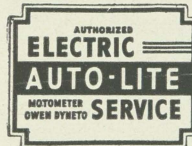


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#### Report of Deficiencies of the Major Routes to Serve the National Defense

Very shortly, the Public Works Committees of the Congress will have before them a detailed report on the substandard conditions of the Interstate Highways and other major routes which are essential to national security and national defense. This report is based upon the detailed studies by the State highway departments. The Secretary of Defense and the National Security Resources Board have cooperated fully. The report was directed by the Congress in the 1948 Highway Act following the precedent of 1941. The report at that time on "Highways for the National Defense" resulted in special appropriations approximating 350 million dollars for the major routes and defense access roads.

The final figures of cost for bringing the Interstate Highway System and other necessary roads to a state of reasonable adequacy for the national defense, as of the present, will total in excess of 10 billion dollars.

#### (2) THE ADEQUACY OF THE RATE OF CONSTRUCTION TO MEET AUTHORIZED PROGRAMS.

There remains a review of the progress being made in the production of highways for the timely completion of current authorized programs.

Notwithstanding the delays and problems of the postwar years, there is now much promise for the future in the road contracting field. The Federal-aid Highway Act of 1944 greatly broadens the base for contract construction between the wide extremes of the simplest, least expensive types for low traffic volume farm-to-market road, to the urban arterial type for the daily use of many thousands of vehicles in the metropolitan area. The three systems—Federal-aid primary, Federal-aid secondary and

urban arterial, as now definitely selected, total 611,226 miles.

The postwar program set in motion by the Congress in October of 1945, while apparently slow in getting under way, now extends to more than 70,000 miles in all stages, of which 37,529 miles of all classes and types have been completed.

Measured in terms of dollar value of construction put in place, the Federal-State co-operative highway construction has accelerated steadily since the end of the war period. From approximately 90 million dollars total cost in the calendar year 1945, advances to 329 million dollars in 1946, 580 million dollars in 1947, and 768 million dollars in 1948 have been recorded.

It appears likely that during the present calendar year, Federal-aid construction put in place may reach values of 850 million dollars in total cost and 440 million dollars in Federal funds. This is about equal to the annual rate of Federal fund authorizations carried in the Federal-aid Highway Act of 1948.

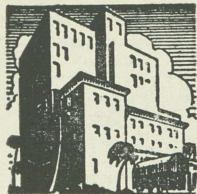
The momentum gained in more than three years of postwar highway production, in spite of the numerous handicaps encountered attest to the resourcefulness and vitality of the contracting industry, the State highway departments, and the highway officials of

local governments, both rural and urban. You are all familiar with the material shortages which existed, some local and some national in scope. A large program also requires an army of workers, trained for their jobs and equipped with a large array of tools and machines. Such an army cannot be created in a period of months. To function most cheaply it must be kept busy throughout each working season.

#### Equipment Shortage Fading

The shortage of highway construction equipment seems to have largely disappeared. For the past year the supply has been steadily improving. Shortages which existed in the patrol grader, crawler tractor and power shovel fields are decreasing to the extent of now being on a close to immediate delivery basis.

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cleared from the manufacturer's and distributor's standpoint. There may perhaps be some lag on the part of the contractors in replacing old equipment or taking on new types. This can be due, to a large extent, to present prices. The reluctance of distributors to enter into a buyer's market, which perhaps means cutting distribution profits by making higher trade-in allowances, may also influence users' purchases.

Any lack of confidence that the highway contractor may have in the continuance of an adequate highway program will, of course, also affect his equipment purchases.

Suffice it to say that the equipment is now available if needed or wanted.

#### Trend in Highway Construction Bid Prices

It is also apparent from work let to contract during the first quarter of the calendar year 1949 that a decided break has occurred in the upward price trend.

Out of approximately \$118,000,000 of contract awards, there has been a decline of 2.4 percent in the composite mile index from the previous quarter. Structures which had been the principal contributing element in past upward trends show a 5.1-percent decline. It is comprised of the following three elements which have individually declined as follows: Structural steel, 1.2 per-

cent; reinforcing steel, 2.6 percent; structural concrete, 7.3 percent.

Common excavation remains the same as in the last quarter of 1948. The last quarter of 1948, however, showed a drop of 4.5 percent from the third quarter. Concrete pavement has dropped 2.3 percent since the beginning of this year.

#### Contractors' Capacity

There have been differences of opinion over the capacity of the contracting industry to handle the postwar Federal-aid construction program.

Field engineers of the Public Roads Administration in recent reports indicate, in general, that the situation is quite satisfactory. Increased competitive bidding is pronounced. Twenty-four bids were received on one project in the first quarter of 1949. No less than 15 bids have been received on several projects in various parts of the country. On this sample the aggregate of bids was 19 percent less than the engineers' estimates but for the entire Federal-aid program for the calendar year 1948, the total low bids were only 1.8 percent below the engineers' estimate; however, for the first quarter of 1949 the low bids were 6.5 percent below the engineers' estimate which would indicate that lower bids are being received during 1949.

The improved condition is attributed to a decrease in contractual uncertainties, the establishing of long-range programs and the influx of new contractors. Of the total 2,039 contractors receiving 1948 awards, there were 562 new contractors. In addition to the new successful bidders, some 500 new potential contractors were successful. It is significant that of the contractors in 1947 obtaining awards, 913 were not successful in 1948. From this you can draw your own conclusion. As previously indicated, there is a marked increase in competition. In 1946 the average number of bids for the entire country was 3.9 per project; in 1947 it was 3.8 bids; and in 1948 it increased to an average of 4.2 bids per project. A marked rise has occurred in the first quarter of 1949 to 5.9 bids per project.

While the reports are favorable on a national scale, in several States it is questionable whether the local contractors have sufficient capacity to carry on the size of program necessary to fully utilize the Federal-aid funds as they become available. In States where such capacity is lacking, neigh-

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boring areas have ample or surplus capacity to supplement the needs by proper promotion. It may be the highway department's fault if out-of-State contractors do not bid.

### Engineering

The lack of sufficient engineers to properly carry on the survey, design and construction has been a serious stumbling block to the successful execution of the postwar Federal-aid program in many states. The causes are basically the same wherever they occur: loss of personnel during the war period, inability to recruit and hold the necessary additional engineers because of relatively low salaries, insecurity of employment, poor prospects for advancement, inadequate subsistence allowances, undesirable working locations, frequent moves from place to place and seasonal nature of work.

Legislative action is generally required to improve the situation, and legislatures now in session are considering the problem in most States. Other measures for improving highway employment include in-service training programs, publicizing and recruiting campaigns, scholarships and special training courses. The shortage is generally in the subprofessional grades.

Some States have apparently let their backlog of plans become depleted to the extent that it will be an obstacle to stepping up a larger highway program. The employment of consulting engineers has aggravated the situation due to competition for the available supply. Secondary programs dependent on county organizations have also run into a major shortage of personnel. Bridge engineers are a class especially scarce.

Surveys of colleges indicate that twice as many new highway engineers may be available in 1949 as in the previous year. This is not too encouraging when considering the enlarged highway needs ahead and the fact that the Federal-aid Act is now in effect close to 30 years and engineers who worked in the initial stages of the program are approaching retirement.

North Carolina State College, School of Engineering, at Raleigh, announces that next year they will offer a course in which the curriculum will lead to the degree of Bachelor of Science in Construction. The program of study will integrate engineering administration, job management, labor re-

lations and construction methods and practices.

It is my opinion that such a course is long overdue. There has always been a large field, especially in the construction and maintenance division of State and county highway departments, where men are needed with practical training and not stratospheric flight in design. In fact, there are many types of minds which would be successful in construction and maintenance that would not be adapted to the Orthodox courses offered in some engineering schools. This should be a mutual field of interest for the construction industry and the highway departments jointly with the universities to develop courses that would furnish an adequate supply of construction and maintenance engineers so that progress in our highway programs can be achieved.

### Summary

Summing up the foregoing points of interest the facts develop that the construction program has reached a volume contemplated in the postwar highway legislation. This volume is not sufficient to satisfy present needs of postwar highway transportation. The construction industry can undoubtedly step-up production to handle a larger volume of highway construction.

The annual highway programs, both Federal and non-Federal-aid, should be stepped-up or increased to a point where reconstruction, betterments and new construction overcome accumulated deficiencies. Thereafter a program for the replacement of annual depreciation and highway obsolescence would be adequate. The extent of additional funds necessary to carry on such an enlarged program is problematical, depending upon stabilization of prices, and the contractors, material suppliers, and equipment manufacturers' ability to respond to such demands. In order that the construction industry be properly geared to the work ahead they should be given a firm long-range program, say from five to ten years, in sufficient detail as to the types, location and timing of projects. It is conceivable with the level-

ing-off of prices, improvement of machinery, organization and administration, that the present source of funds in some States that have put their finances in order may be sufficient to furnish the necessary finances without resorting to debt obligations against future revenues. Other States must take stock of the highway problem and put their house in order. In other words, we need more long-time planning and teamwork.

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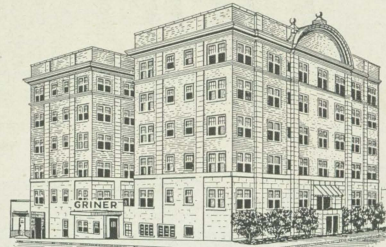
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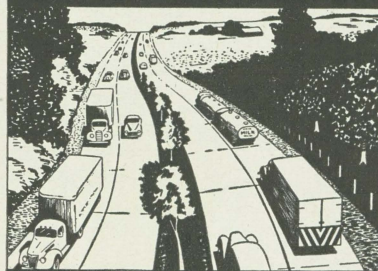


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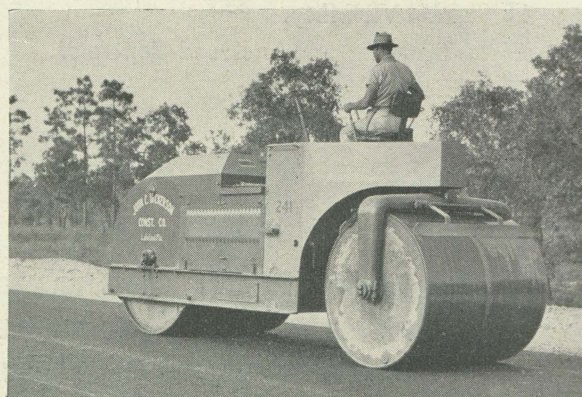


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